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	First Named Inventor	Masaaki HIROKI et al.	
	Group Art Unit	2871	
	Examiner Name	K. Parker	
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ENCLOSURES (check all that apply)

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Firm or Individual name	Eric J. Robinson, Reg. No. 38,285 Robinson Intellectual Property Law Office, P.C. PMB 955 21010 Southbank Street Potomac Falls, VA 20165
Signature	
Date	December 20, 2005

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Attorney Docket No. 0756-2367

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In reply Patent Application of:

Masaaki HIROKI et al.

Serial No. 09/961,055

Filed: September 24, 2001

For: ELECTRO-OPTICAL DEVICE

) Group Art Unit: 2871

) Examiner: K. Parker

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Adeline M. Stampen

RESPONSE

Honorable Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

The Official Action mailed September 20, 2005, has been received and its contents carefully noted. This response is filed within three months of the mailing date of the Official Action and therefore is believed to be timely without extension of time. Accordingly, the Applicants respectfully submit that this response is being timely filed.

The Applicants note with appreciation the full consideration of the Information Disclosure Statements filed on November 30, 2001; September 20, 2002; January 30, 2004; June 16, 2004; March 8, 2005; June 27, 2005; and August 11, 2005.

The present *Response* constitutes a third request for consideration of the IDS filed on November 2, 2001 (received by OIPE on January 16, 2002). In the *Amendment* filed March 8, 2005, the Applicants noted that an Information Disclosure Statement (1 page) and PTO 1449 forms (8 pages) were filed on November 2, 2001, and received by OIPE on January 16, 2002. Also, the Applicants attached a copy of the stamped received post card. The Applicants also provided a copy of the IDS and 1449 forms as filed. The U.S. references cited in the IDS filed November 2, 2001, are readily available to the Examiner. Foreign and non-patent literature references cited in this IDS are to be

found in the copending applications Serial Nos. 08/943,333 (abandoned), 08/372,899 (pending), 07/993,391 (abandoned) and 07/837,394 (issued as U.S. Patent No. 5,200,846). If there are any particular references that cannot be located by the Examiner in Serial Nos. 08/943,333, 08/372,899, 07/993,391 and 07/837,394 applications, the Applicants request that such references be identified in a subsequent communication. If the Examiner is unable to comply with the rules, it is respectfully requested that the Examiner discuss the matter with the Director of the Technology Center to find out what other remedies may be available.

Under 37 CFR 1.98(d)(1), the Applicants are permitted to rely on an earlier submission of prior art in a parent application if the "earlier application is properly identified in the information disclosure statement and is relied on for an earlier effective filing date under 35 U.S.C. 120." The Applicants respectfully submit that copies of the references cited in the Information Disclosure Statement are available in the copending parent applications, Serial Nos. 08/943,333, 08/372,899, 07/993,391 and 07/837,394. The above-referenced applications are properly identified in the Information Disclosure Statement, and the application data sheet shows that the present application claims the benefit of priority from the above-referenced applications. As such, the Applicants respectfully submit that the Information Disclosure Statement fully complies with 37 CFR 1.98 and must be considered by the Examiner. As stated in MPEP § 609.III.C(2), "items of information listed that do comply with the requirements of 37 CFR 1.97 and 37 CFR 1.98 will be considered by the examiner and will be appropriately initialed" (emphasis added).

It is noted that it has come to the Applicants attention that the above-referenced IDS contains minor errors, which have been corrected in the copies of the PTO 1449 forms attached to the *Amendment* filed March 8, 2005. Specifically, on page 1 of 8, "McGrievy" has been changed to "McGreivy"; on page 2 of 8, "Moruzumi" has been changed to "Morozumi"; and on page 5 of 8, JP 02-349415 was cited in error. Also, as noted in the IDS filed June 27, 2005, on page 6 of 8, regarding the form of translation of

JP 53-144297, "Full Eng" should have been "Abst." Therefore, the Applicants cited JP 53-144297 in the IDS filed June 27, 2005, which as been considered, and the Applicants requested that the Examiner cross through the erroneous citation of JP '297 on page 6 of 8 of the IDS filed November 2, 2001.

It is noted that the Applicants resubmitted the above documents as a courtesy to the Examiner. It is respectfully submitted that the above-referenced Information Disclosure Statement was properly and filed on November 2, 2001, and should be accorded its filing date for the purposes of consideration and compliance with 37 CFR 1.97 and 1.98.

The present *Response* constitutes a third request for consideration of the IDS filed April 18, 2002 (received by OIPE April 29, 2002). The Applicants received a partially considered copy of the PTO 1449 form with the Official Action mailed July 21, 2003 (Paper No. 6), a copy of which was attached to the *Amendment* filed March 8, 2005. Specifically, as previously noted by the Applicants, it appears the Examiner overlooked the citation of U.S. Patent No. 5,340,999 to Takeda et al. U.S. Patent No. 5,340,999 should be readily accessible to the Examiner. Therefore, all pertinent documents are available to the Examiner and the IDS filed April 18, 2002, should be fully considered in due course.

The present *Response* constitutes a third request for consideration of the IDS filed May 9, 2003 (received by OIPE May 12, 2003). The entire IDS including the five JP references cited therein are clearly shown in PAIR/IFW as "05/12/2003 Information Disclosure Statement PROSECUTION 3 [pages]" and "05/12/2003 Foreign Reference PRIOR ART 6 [pages]," 6 pages, 10 pages, 12 pages and 8 pages, respectively. Therefore, all pertinent documents are available to the Examiner and the IDS filed May 9, 2003, should be fully considered in due course.

A further IDS was filed October 12, 2005, and received by OIPE October 14, 2005. The Applicants respectfully request that the Examiner provide an initialed copy of

the Form PTO-1449 evidencing consideration of the above-referenced Information Disclosure Statements.

Claims 2, 4, 6-9, 15, 19, 21 and 24-58 are pending in the present application, of which claims 2, 4, 6-9, 26-31, 37-42 and 48-53 are independent. Claims 19, 21, 24-36 and 48-58 have been withdrawn from consideration by the Examiner (Paper No. 09182005). Accordingly, claims 2, 4, 6-9, 15, 19, 21 and 37-47 are currently elected, of which claims 2, 4, 6-9 and 37-42 are independent, and of which claims 2, 4, 6 and 7-9 are generic. For the reasons set forth in detail below, all claims are believed to be in condition for allowance. Favorable reconsideration is requested.

The Official Action rejects claims 2, 4, 6-9, 37-42 and 44-47 as obvious based on the combination of U.S. Patent No. 5,051,570 to Tsujikawa et al. and U.S. Patent No. 4,007,294 to Woods et al. or EP 0 459 763 to Zhang et al. The Applicants respectfully traverse the rejection because the Official Action has not made a *prima facie* case of obviousness.

As stated in MPEP §§ 2142-2143.01, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also In re Fine, 837 F.2d 1071, 5

USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

The prior art, either alone or in combination, does not teach or suggest all the features of the independent claims. Independent claims 2, 4, 6-9 and 37-42 recite a leveling film comprising an organic resin. For the reasons provided below, Tsujikawa and Woods or Zhang, either alone or in combination, do not teach or suggest the above-referenced features of the present invention.

The Official Action asserts that Tsujikawa teaches “a leveling film comprising an organic resin formed over said at least one thin film transistor” (page 3, Paper No. 09182005). The Applicants respectfully disagree and traverse the above-referenced assertion in the Official Action. The Official Action relies on interlayer insulating film 123 of Tsujikawa to allegedly teach a leveling film comprising an organic resin. Although the interlayer insulating film 123 of Figure 9B of Tsujikawa appears to have a flat surface, Tsujikawa teaches that the interlayer insulating film 123 consists of silicon nitride (column 11, lines 11-14). Also, Tsujikawa teaches that “[f]or the interlayer insulating film, organic insulating materials such as polyimide may also be used in addition to what was mentioned in the above” (Id. at lines 31-33). Although the Official Action appears to assert that the interlayer insulating film 123 of Tsujikawa corresponds to the claimed “leveling film comprising an organic resin,” there is no explicit teaching in Tsujikawa that interlayer insulating film 123 is a leveling film. The Official Action has not shown support from the reference to support the assertion that the interlayer insulating film 123 of Tsujikawa is a leveling film. Therefore, the Applicants respectfully submit that Tsujikawa does not teach or suggest that interlayer insulating film 123 is a leveling film.

Woods or Zhang does not cure the deficiencies in Tsujikawa. The Official Action relies on Woods to allegedly teach “treating the silicon dioxide with fluorine to prevent problems [due] to ions” (page 3, Paper No. 09182005) and on Zhang to allegedly teach “fluoring ... for the benefit of terminating dangling bonds” (page 2, Id.). However,

Tsujikawa and Woods or Zhang, either alone or in combination, do not teach or suggest that an interlayer insulating film is a leveling film.

Since Tsujikawa and Woods or Zhang do not teach or suggest all the claim limitations, a *prima facie* case of obviousness cannot be maintained.

Furthermore, there is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify Tsujikawa and Woods or Zhang or to combine reference teachings to achieve the claimed invention. MPEP § 2142 states that the examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. It is respectfully submitted that the Official Action has failed to carry this burden. While the Official Action relies on various teachings of the cited prior art to disclose aspects of the claimed invention and asserts that these aspects could be used together, it is submitted that the Official Action does not adequately set forth why one of skill in the art would combine the references to achieve the features of the present invention.

The test for obviousness is not whether the references “could have been” combined or modified as asserted in the Official Action, but rather whether the references should have been. As noted in MPEP § 2143.01, “The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination.” In re Mills, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990) (emphasis in original). Thus, it is respectfully submitted that the standard set forth in the Official Action is improper to support a finding of *prima facie* obviousness.

The Official Action concedes that Tsujikawa does not teach “fluorine in the gate insulator” (page 2, Paper No. 09182005). The Official Action relies on Woods to allegedly teach “treating the silicon dioxide with fluorine to prevent problems [due] to ions” (page 3, Id.) and on Zhang to allegedly teach “fluoring ... for the benefit of terminating dangling bonds” (page 2, Id.). The Official Action asserts that “one of ordinary skill would have found reason, motivation and suggestion to employ fluorine for

the benefits mentioned above" (page 3, Id.). The Applicants respectfully disagree and traverse the above assertions in the Official Action.

Tsujikawa appears to teach a gate insulating film 135 in Figure 9B. There is no showing in the prior art that teaches or suggests that "problems [due] to ions" (Woods) or "neutralizing silicon dangling bonds" (Zhang) would be of any concern when forming gate insulating film 135 of Tsujikawa or that these concerns could or should be solved by forming the film 135 so that it contains fluorine.

Also, it is not clear why one of ordinary skill in the art who was concerned with "problems due to ions" or "neutralizing silicon dangling bonds" would not have simply practiced Woods or Zhang alone. It is unclear why it would have been desirable to combine Tsujikawa and Woods or Zhang at the time of the present invention.

It is not sufficient to merely point out the advantages of two references and assert that it would have been obvious to combine the two references so that you can have both advantages in one device. Rather, in order to form a *prima facie* case of obviousness, the Official Action must show that the references should have been combined.

Therefore, the Applicant respectfully submits that the Official Action has not provided a proper or sufficient suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify Tsujikawa and Woods or Zhang or to combine reference teachings to achieve the claimed invention.

In the present application, it is respectfully submitted that the prior art of record, either alone or in combination, does not expressly or impliedly suggest the claimed invention and the Official Action has not presented a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.

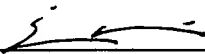
For the reasons stated above, the Official Action has not formed a proper *prima facie* case of obviousness. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a) are in order and respectfully requested.

The Official Action rejects dependent claim 43 as obvious based on the combination of Tsujikawa and U.S. Patent No. 5,268,679 to Shannon. Initially, it is noted that claim 43 depends from claims 37-42. Since claims 37-42 were rejected based on Tsujikawa and Woods or Zhang, it is unclear how claim 43 could be rejected solely based on Tsujikawa and Shannon. In any event, please incorporate the arguments above with respect to the deficiencies in Tsujikawa, Woods and Zhang. Shannon does not cure the deficiencies in Tsujikawa, Woods and Zhang. The Official Action relies on Shannon to allegedly teach a transparent pixel electrode (page 14, Paper No. 09182005). However, Tsujikawa, Woods, Zhang and Shannon, either alone or in combination, do not teach or suggest that an interlayer insulating film is a leveling film or that "problems due to ions" (Woods) or "neutralizing silicon dangling bonds" (Zhang) would have been of any concern when forming gate insulating film 135 of Tsujikawa. Since Tsujikawa, Woods, Zhang and Shannon do not teach or suggest all the claim limitations and since there is insufficient motivation to combine Tsujikawa, Woods and Zhang, a *prima facie* case of obviousness cannot be maintained. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a) are in order and respectfully requested.

The Applicants note that dependent claim 15 has not been formally rejected in the Official Action. For at least the reasons set forth above, it is respectfully submitted that claim 15 is also allowable.

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,



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